Cyclone Manual

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Congratulations on your decision to get the Power of SASE behind you! SASE is committed to excellence, excellence in the quality of products we sell and excellence in service and support after the sale. It is important to us that your business continues to succeed and grow, and we know that the right products, service and support can have a great impact on your bottom line.

SASE has made great strides in the concrete preparation and polishing industry over the years. With a 40,000 square foot distribution and service facility in Seattle, a 22,000 square foot distribution and service facility in Knoxville, and local sales and technical support representatives throughout the United States, SASE is able to provide unsurpassed service and technical support for the contractor.

At SASE we engineer and manufacture our own equipment, which allows us to be in control of the quality of the equipment we sell. SASE offers a complete line of concrete preparation and polishing equipment, our newest introduction being our new line of PDG planetary diamond grinders, which is setting a new standard for the concrete grinding and polishing industry. SASE is also the leader in diamond tooling technology.

We look forward to a long and prosperous partnership with you! Thank you again for choosing SASE. You won't regret having the Power of SASE behind your company!

Sincerely,

SASE Company, Inc.

Jim Weder

President

SASE Company Inc. Equipment Safety Policy Statement

SASE Company, Inc. is adamant that safety is one of the highest priorities for both our employees and customers. When considering set-up and operation of any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc., the safety and protection of people should always be a top priority.

All customers and employees should follow all OSHA and local safety standards, requirements and regulations.

The use of the following safety equipments are both recommended and required when operating any piece of equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc.

- OSHA approved/certified eye protection (safety glasses).
- OSHA approved/certified hearing and ear protection.
- OSHA approved/certified foot protection (steel toed boots).
- OSHA approved/certified respirator or breathing device.
- OSHA approved head protection (hard hat).
- Proper protective work gloves.
- Proper protective clothing limiting skin exposure.

(The list is not meant to be all inclusive. Please exercise sound judgments during operation.)

The work area must always have proper ventilation to minimize the health and safety risks of propane and gasoline emissions and airborne dust.

All SASE Company Equipment is engineered, designed and provided with dust control shrouds and vacuum ports. It is strongly recommended that an approved dust containment system be connected to and used in conjunction with all SASE Company equipment during operational use. SASE Company supplies, distributes, rents and services dust control systems with HEPA filtration.

Extreme caution must be exercised at all times when electrical power is considered. All SASE employees are prohibited from working on or hard wiring our equipments to any power source that has not been provided by SASE Company Inc. Any such work must be performed by a certified electrical technician. No SASE employee is permitted or authorized to work on, operate, or connect our equipment or equipment belonging to our customers to an electrical source that does not meet OSHA approved specifications. There are no exceptions to this policy! SASE Company, Inc. also strongly recommends that only certified electricians be permitted to deal with or manipulate electrical power sources within our customers' facilities or on their job-sites.

Finally, we at SASE Company, Inc. cannot stress enough the importance of following general safety practices, the utilization of appropriate safety equipment and the application of common sense when operating equipment supplied, manufactured, distributed, rented or serviced by SASE Company, Inc. both on the job-site and in the field. *(JJL 07/2010)*

OPERATIONS AND MAINTENANCE MANUAL

_____

CUSTOMER

_____

SERIAL NUMBER

_____

DATE SHIPPED

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SECTION I:

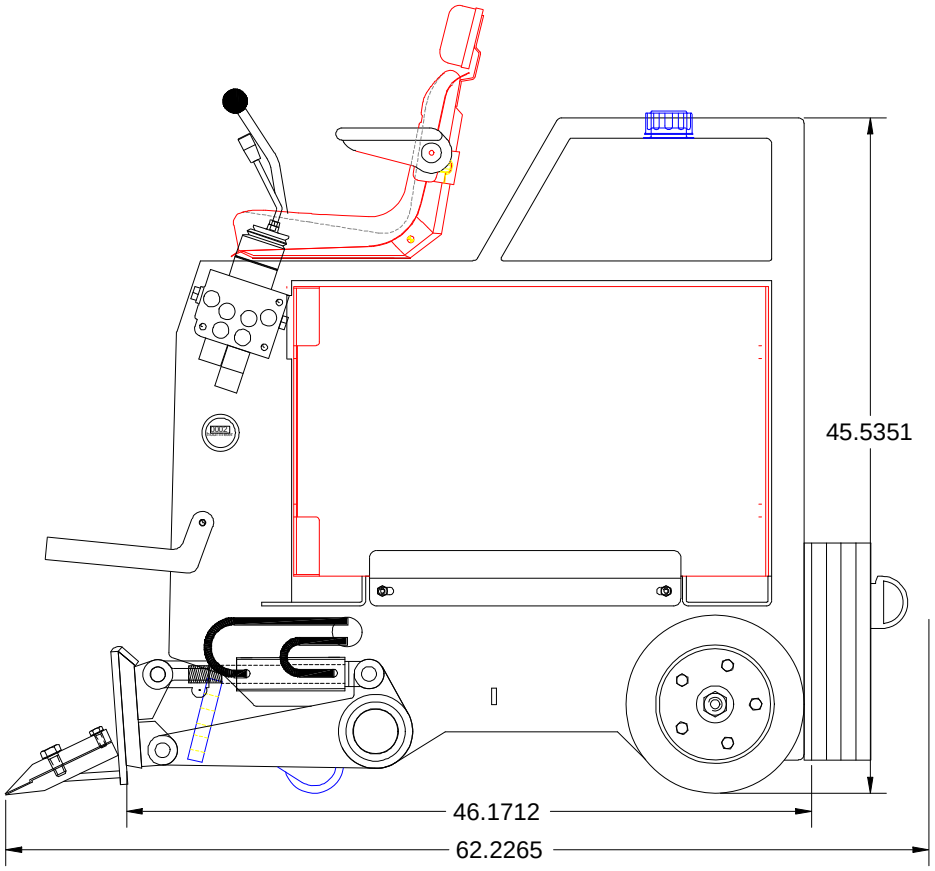
GENERAL DESCRIPTION
Cyclone

The CYCLONE is operated by electric DC motors, driving a pair of hydrostatic drive systems, creating a skid-steer ZTR drive.

Surface coverings and coatings are removed by lowering a weighted blade onto the surface and moving forward under a high torque drive system. The surface coating is removed by a flexible sharpened blade conforming to the floor surface, with the weight of the machine holding the blade firmly to the floor. The weight does not allow the blade to lift or ride over well adhered surface coating material, thus lifting off the floor covering material.

SECTION II:

SPECIFICATIONS



Weight	**3500 lbs**
Removable weight	**400 lbs**
Hydraulic fluid capacity	**10 gallons**
Travel speed	**350 ft per minute**
Minimum length	**46”**
Width	**26"**

SECTION III:

SAFETY AND PRECAUTIONS

Before operating the CYCLONE please read the entire operation and safety manual with complete understanding of the safety section. If you have any questions on safety and precautions please call 1-00-522-2606.

There are several advantages to an effective safety program which include: lower operating costs, lower workman compensations, less work time lost, high employee morale, and less problems. No one can work safely without knowing what precautions to take to insure personal safety. Operators must know what equipment to wear, which job practices are safe and which are not, and must be aware of what hazards are possible in the work area. A regular schedule of Preventive Maintenance on your equipment is the best protection against unpleasant surprises that slow production and sometimes result in injuries. Here are a few suggested safety tips.

The first step before any maintenance or inspection takes place should be to turn off electric motors, and disconnect battery power "plug-in".

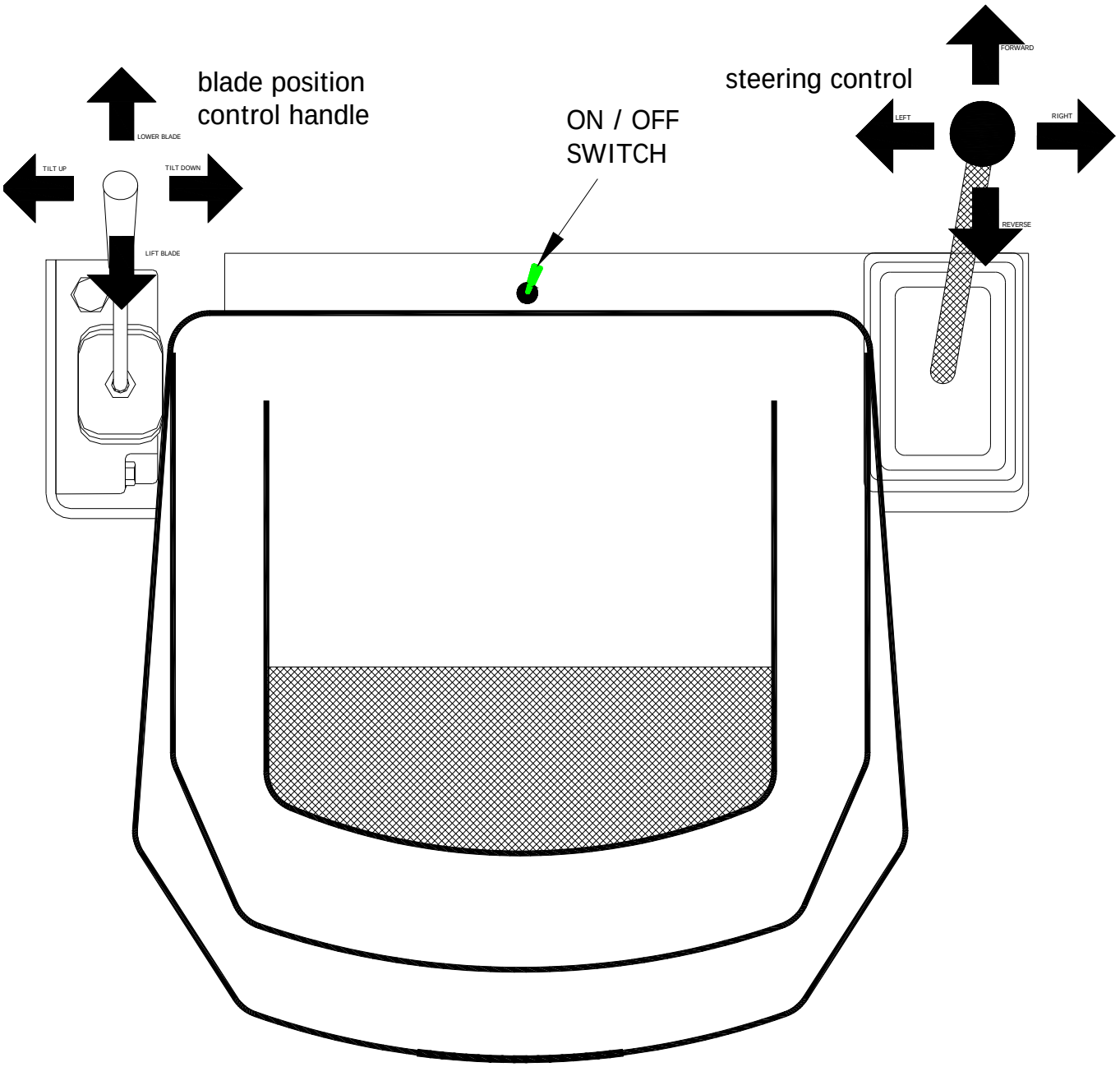
1. Wear proper eye and ear protection and heavy duty work gloves at all times.
2. Practice good Preventive Maintenance.
3. Practice good housekeeping.
4. Allow the CYCLONE to come to a complete stop, disconnect power supply, and chock rear wheels before performing any maintenance procedures.
5. Replace worn parts when necessary.
6. Do not reach into blade or control arm areas while machine is in operation.
7. Do not attempt to open any access door until the machine has come to a complete stop and the power has as been disconnected.
8. Be sure all electrical inspections or changes are performed by qualified personnel.
9. Loose surface coating can cause dangerous footing. Always be alert and careful.
10. After replacing parts be sure all tools used are removed from the machine. Be sure all bolts and nuts are tightened. The loose connection of a rotating part could cause the part to fly off with explosive force, causing serious damage to the equipment and possible injury to the operator.
11. Always lower blade to the ground when the machine is unoccupied by the operator. Serious bodily injury may result if arms are not in the lowered position when not occupied.
12. Never allow unauthorized personnel or the general public into the work area.
13. The work area should be barricaded off to adequately keep all untrained persons out of the work site. If an unauthorized person enters the work area, stop the machine immediately and do not restart the machinery until they have left the work area.
14. Always allow a 200 foot buffer safety zone around all surface preparation activity.
15. Read and obey all safety labels placed on the machinery at all times. If safety labels have been destroyed or removed call 1-800-522-2606 for free replacement prior to operating the machinery.

16. The CYCLNE is **not a toy.** All operators must be over 18 years of age and must have read and reviewed the safety and procedures manual before operating the machinery.
17. The CYCLONE is designed for surface preparation *ONLY.* It is not intended for towing, pushing or any other procedure not described in this manual.
18. Horseplay and or high speed cornering is not allowed with this machine and could cause rollover resulting in injury or death.
19. No smoking or open flame is allowed while machinery is running or within 50 feet of the machine.
20. Operator must be sober and not under the influence of drugs or medication and under full control of all bodily senses while operating this or any machinery.
21. When transporting the CYCLONE, it is recommended to use a low bed tilt trailer. This procedure insures the wheels do not leave a stable surface.
22. All CYCLONE operators must receive safety training before performing any functions with the machine. SASE Company offers a free safety and orientation training. New owners and operators are advised to call 1-800-522-2606 for an appointment.

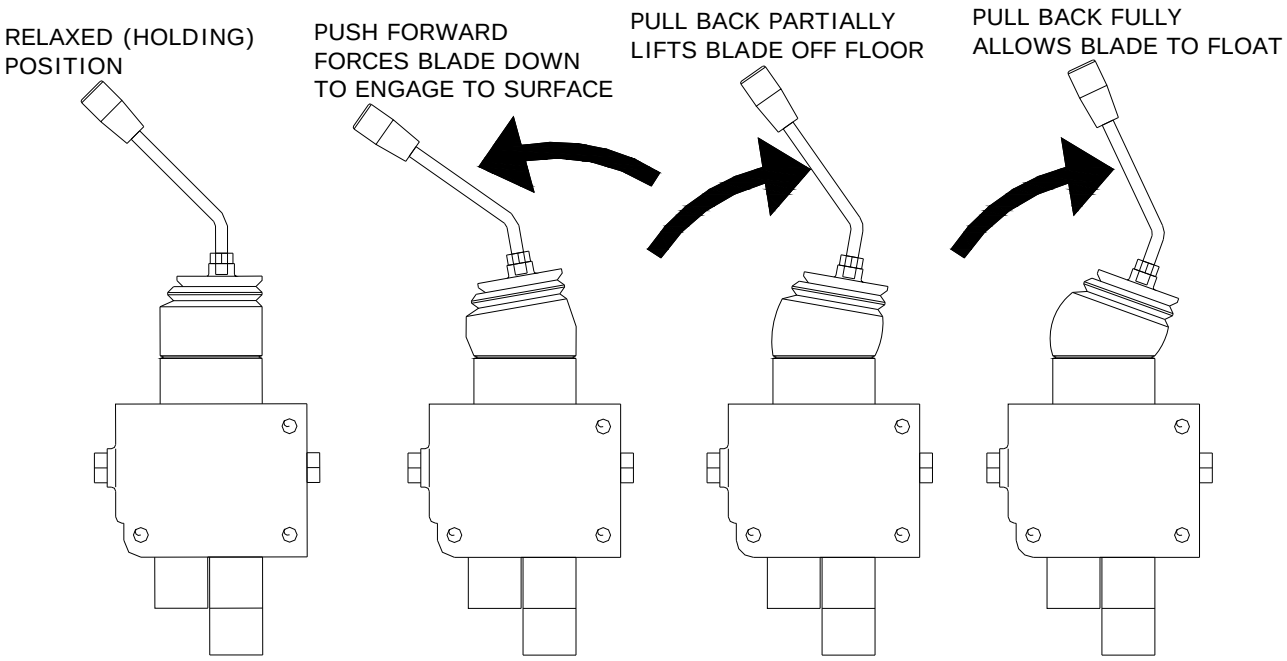
SECTION IV:

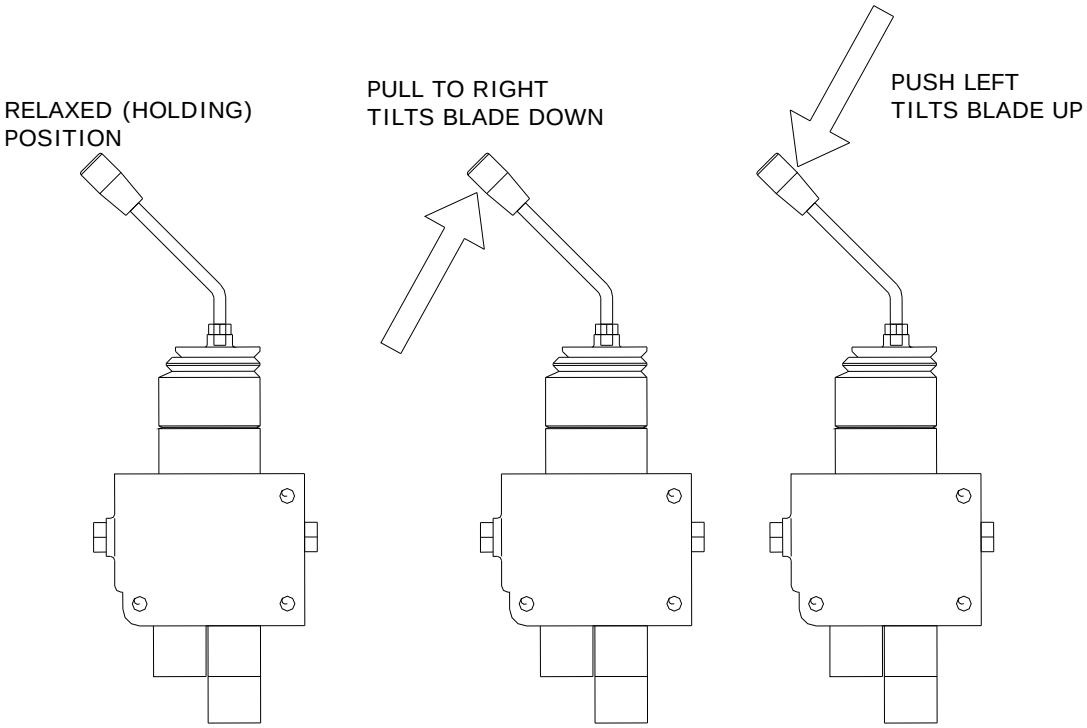
INSTRUMENTS AND CONTROLS

TOP VIEW OF CONTROL AREA

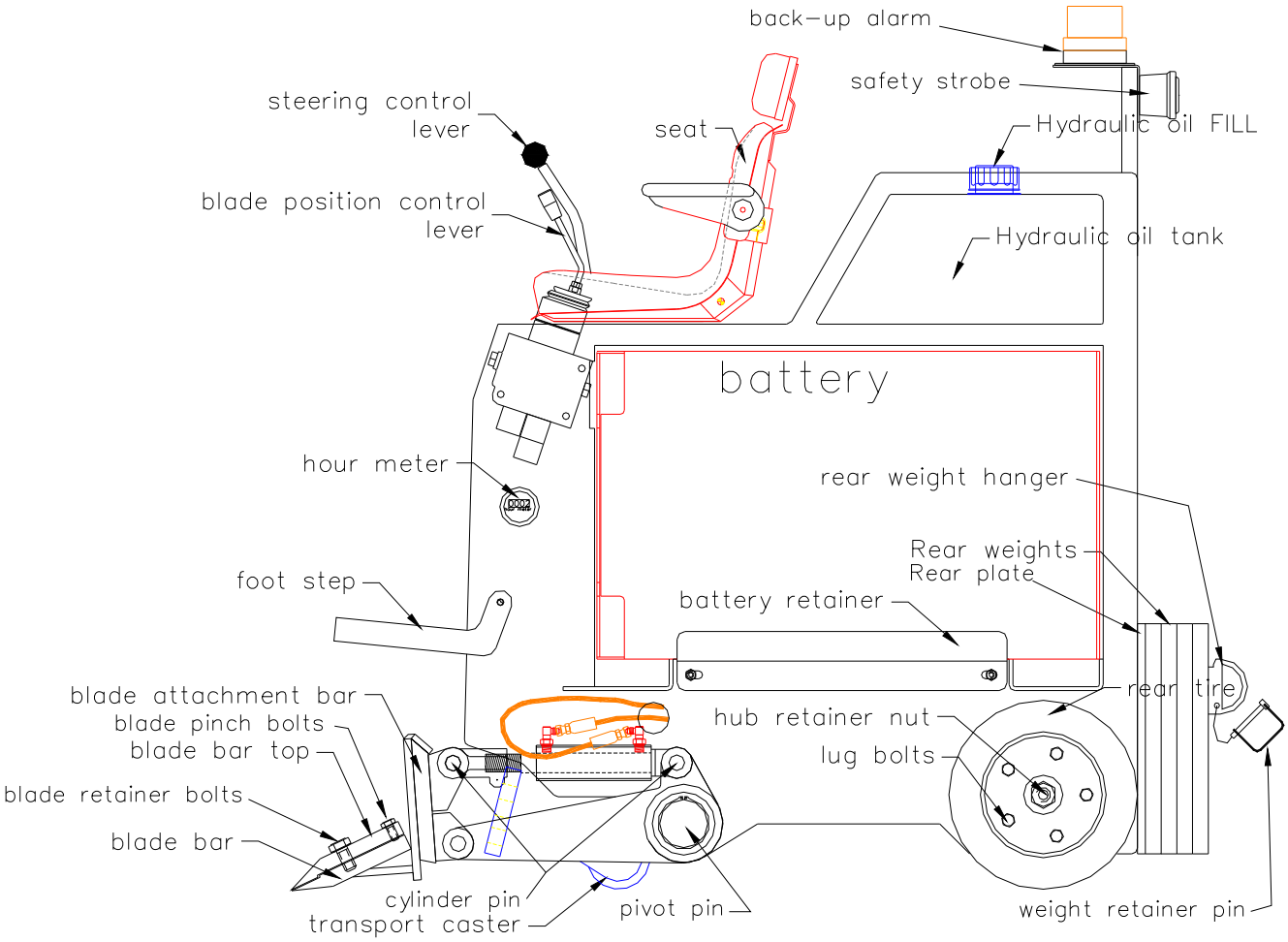


BLADE CONTROL VALVE OPERATING POSITIONS

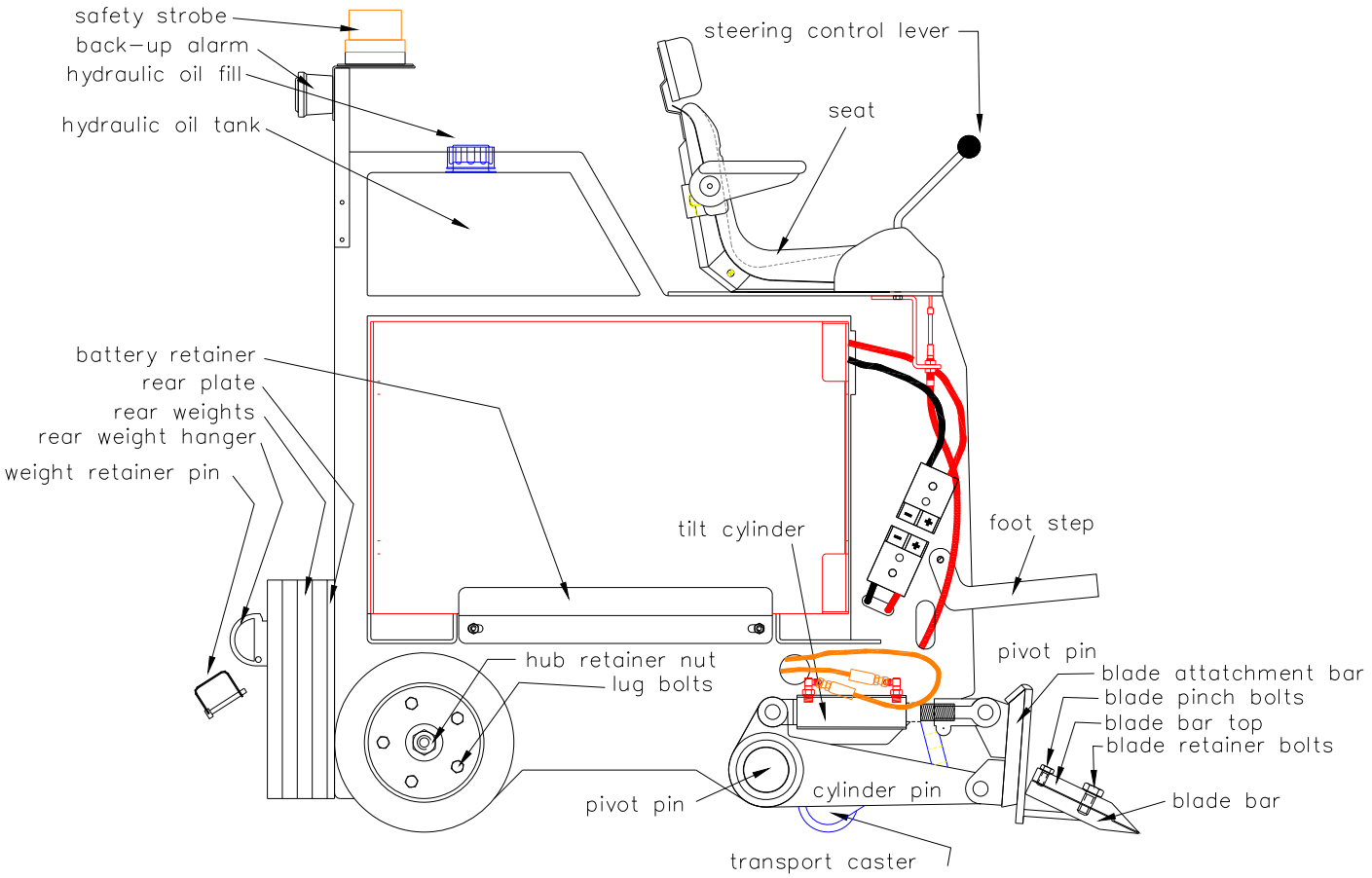




LEFT SIDE DETAIL



RIGHT SIDE DETAIL



SECTION V:

MACHINERY OPERATION

Before reading the machinery operation section, new operators should familiarize themselves with the diagrams depicting the TOP , LEFT , and RIGHT views of machine. These drawings show the activation of all moving parts of the TWISTER.

Even though the CYCLONE surface prep machine is very easy to drive and operate, it is recommended that all operators familiarize themselves with this equipment before attempting to use machine in a jobsite or removal situation. This machine has certain steering characteristics that should be noted and practiced prior to operating in a confined space or restrictive environment.

1. **TO MOVE THE MACHINE:** Using the right hand, slowly move the shifter lever in the desired direction of travel. Forward and left moves the machine to the left, backward and right reverses the machine to the right. It is just that simple to drive. Speed is controlled by amount of movement on the joy stick.
2. **TO ENGAGE BLADE TO SURFACE:** Move left joystick lever forward to lower blade bar assembly down. Move lever back to raise blade bar assembly off floor. Left and right movement adjusts the blade pitch.
3. To change scraping blades: Lift blade to full UP position. Place a block under blade bar assembly for safety purposes. Stop ELECTRIC MOTOR. Loosen the set bolt at the rear of the Blade holder block using a ¾" open-end wrench. Slide the dull blade out and Insert a new blade up against the shoulder stop. Retighten the set bolt and resume scraping. The large 1 1'8" blade holder bolt should not need to be more that hand tight. With a little practice you should be able to change blades in 15 seconds. Dull blades can be resharpened and reused many times.

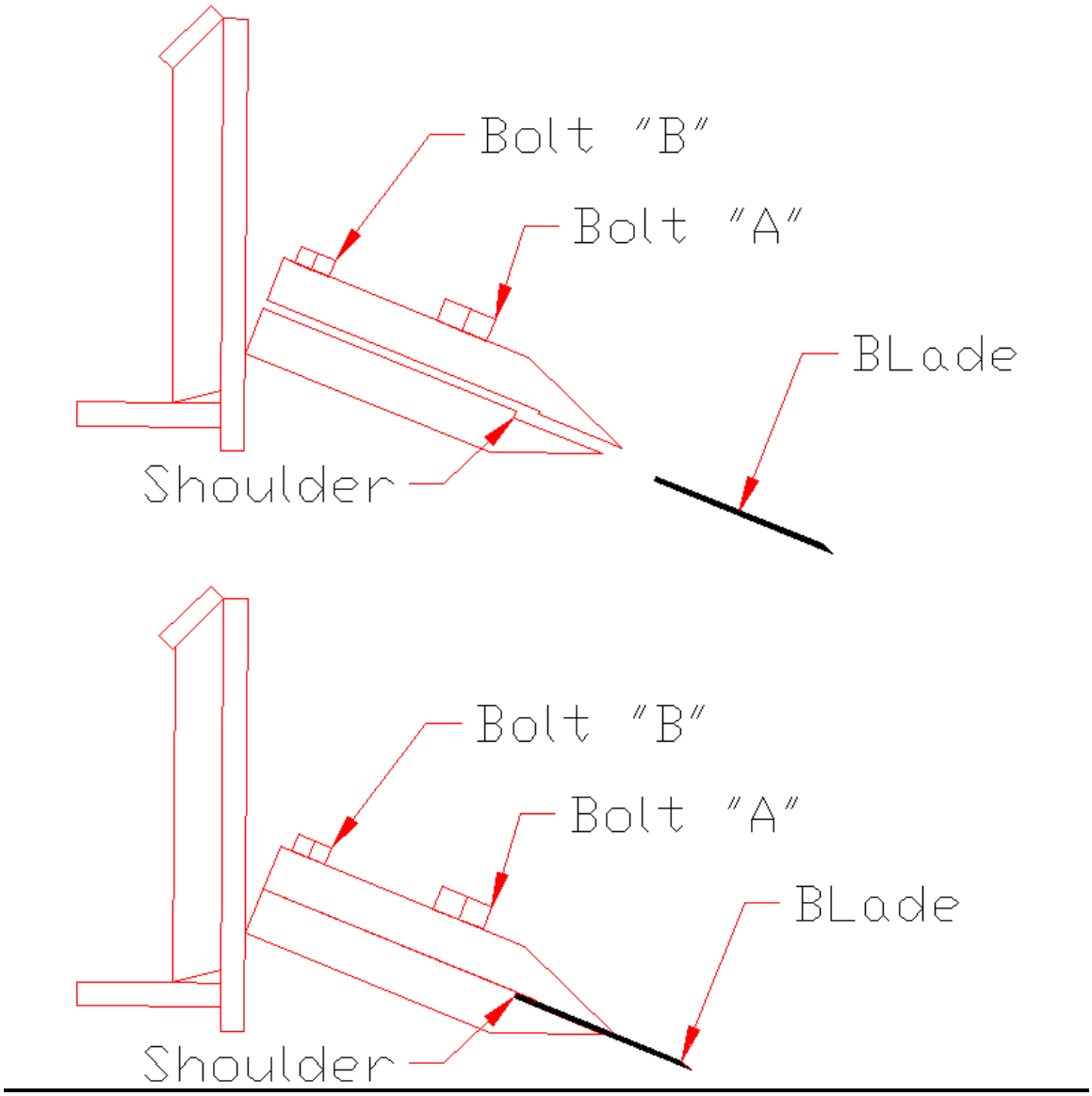
See Drawing of blade change procedure

4. Operators should lower the blade by pressing the left hand lever forward each time they get off the machine. This safety practice eliminates possible bodily injury from lowering the blade by unauthorized operators.
5. The transport caster should not be in contact with the floor while scraping. It will lift off the floor when blade is lowered. Caster contact with the floor while scraping will negatively affect scraper productivity and steering.
6. Do not transport machine with front of machine off the surface of floor higher than 1/2".

See Drawing of correct scraping procedures.

BLADE CHANGE PROCEDURE

Loosen bolt “A” enough to insert blade into JAWS. Make certain it is up against the SHOULDER. Hand tighten Bolt “A”. Wrench tighten Bolt “B” to ensure blade is secure.



SECTION VI:

MAINTENANCE SCHEDULES

Daily Maintenance:

- Check hydraulic oil level
- Torque wheel lug bolts to 125 ft/lbs
- Inspect all hydraulic components and hoses for leaks and correct leaks immediately

50 Hour Maintenance:

- "Top off" hydraulic oil tank
- Torque wheel hub nuts to 325 ft/lbs
- Grease blade arm pivots at base of blade arms (near tires)
- Grease front caster wheel and inspect for damage to tread
- Check and tighten all hydraulic fittings
- Inspect hydraulic hoses for damage
- Inspect and tighten all joystick steering linkages

100 Hour Maintenance: (in addition to 50 hr maintenance requirements)

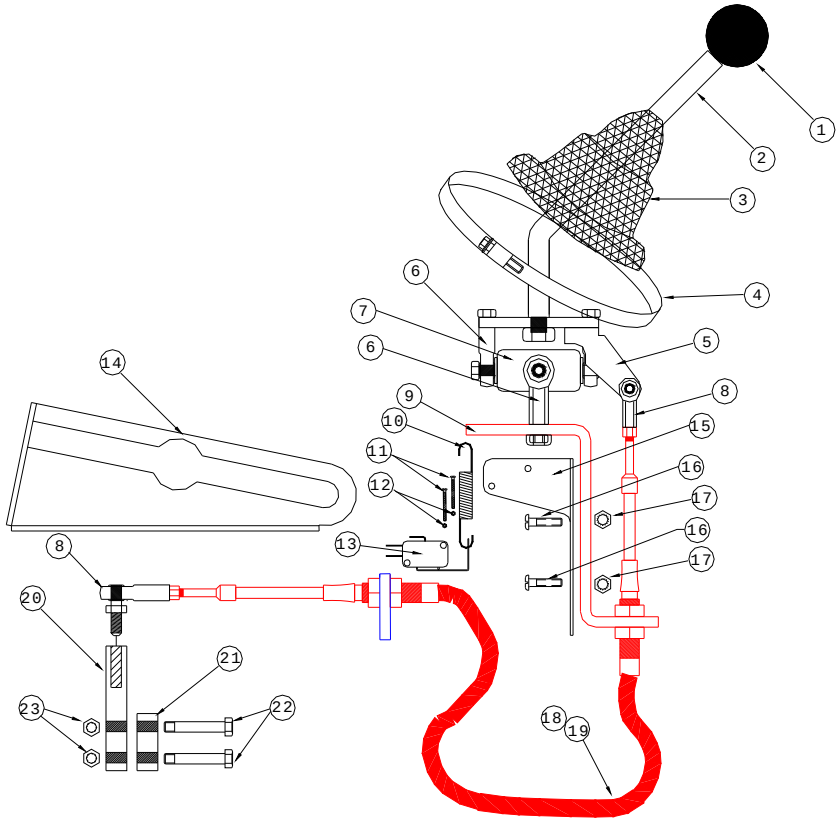
- Drain and replace hydraulic oil and filter

Be Aware of the Effects of Harsh Environments to the Scraper Equipment:

- The constant and continuous impacts of ceramic tile removal could cause premature loosening of bolts and nuts over entire machine
- Use of non-marking (white) tires on ceramic tile, marble, or sharp edged debris will result in extreme tire damage. Black tires are recommended
- Carpet removal will generally result in front transport caster being wrapped with stray carpet strings. Remove debris from wheel daily to prevent irreparable damage to wheel tread

Section VII:

CYCLONE JOYSTICK ASSEMBLY



KEY	DESCRIPTION	QTY	PART NUMBER
1	Ball knob	1	CSJ-001
2	Shifter handle	1	CSJ-002
3	Shifter boot	1	CSJ-003
4	Boot clamp	1	CSJ-004
5	Pivot bracket	1	CSJ-005
6	¼” rod end no/stud	4	CSJ-006
7	4-way pivot	1	CSJ-007
8	¼” rod end w/stud	4	CSJ-008
9	Shifter mount	1	CYS-008
10	Spring	1	CSJ-010
11	Switch retainer bolts	2	CSJ-011
12	Switch retainer nuts	2	CSJ-012
13	Back Up alarm switch	1	CYS-004
14	Lower cable mount	1	CSJ-014
15	Back up alarm switch mount	1	CYS-007
16	Switch mount bolts	2	CSJ-016
17	Switch mount nuts	2	CSJ-017
18	Left pump cable 40 ½”	1	CSJ-018
19	Right cable mount 38”	1	CSJ-019
20	Trunion Mount “A”	2	CSJ-020
21	Trunion Mount “B”	2	CSJ-021
22	Trunion Mount Bolt	4	CSJ-022
23	Trunion mount Nut	4	CSJ-023

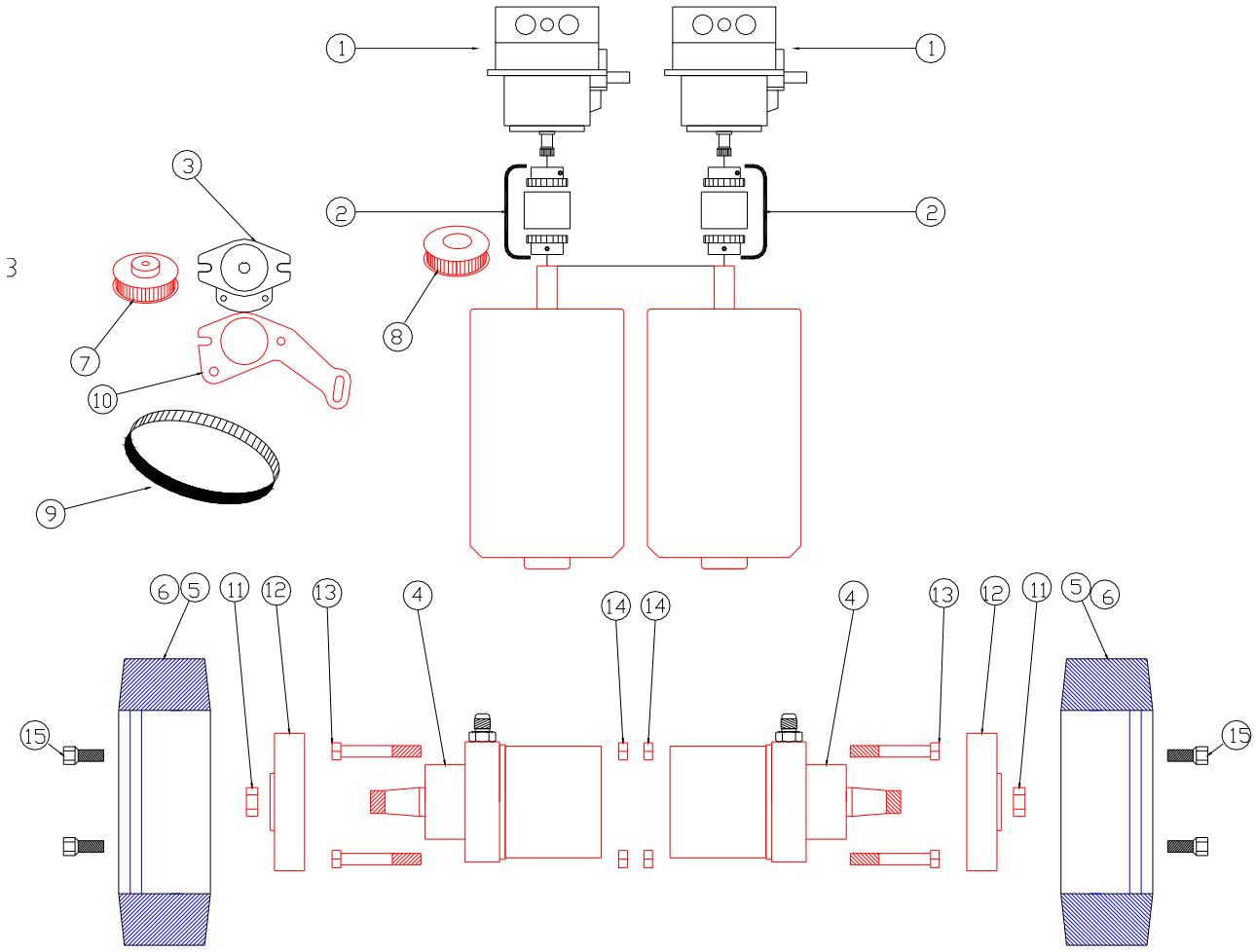
Section VIII:

CYCLONE FRAME AND COWLINGS

KEY	DESCRIPTION	QTY	PART NUMBER
1	Front Caster	1	CYF-001
2	Front caster wheel only	1	CYF-002
3	Wheel Scraper	1	CYF-003
4	Rear Plate	1	CYF-004
5	Front Cover	1	CYF-005
6	Foot Step	1	CYF-006
7	Cylinder pins	1	CYF-007
8		1	CYF-008
9		1	CYF-009
10		1	CYF-010
11		1	CYF-011
12	Rear Weight Hanger	2	CYF-015
13	Frame	2	CYF-016
14	Pivot Bar	1	CYF-017
15	Pivot Bar Retainer	2	CYF-018
16	Pivot Bar Inner Spacer	2	CYF-019
17	Pivot Bar Outer Spacer	2	CYF-020
18	Right Arm	1	CYF-021
19	Left Arm	1	CYF-022
20	Crossover Arm	1	CYF-023
21	Crossover Arm Pin	2	CYF-024
22	Blade Bar Mount Plate	1	CYF-025
24	Blade Bar 24”	1	CYF-026
25	Blade Bar Top 24”	1	CYF-027
26	Blade Bar Top “mount bolts” ¾-10 x 2 ¼”	2	CYF-028
27	Blade Bar Top “clamp bolts” ½-13 x 1 ½	2	CYF-029
28	Blade Bar 8”	1	CYF-030
29	Blade Bar Top 8”	1	CYF-031
30	Blade Bar Mounting Bolts ½-13 x 2	2	CYF-032
31	Blade Bar Pivot Pins	2	CYF-033
32	Rear Weights	4	CYF-034

Section IX:

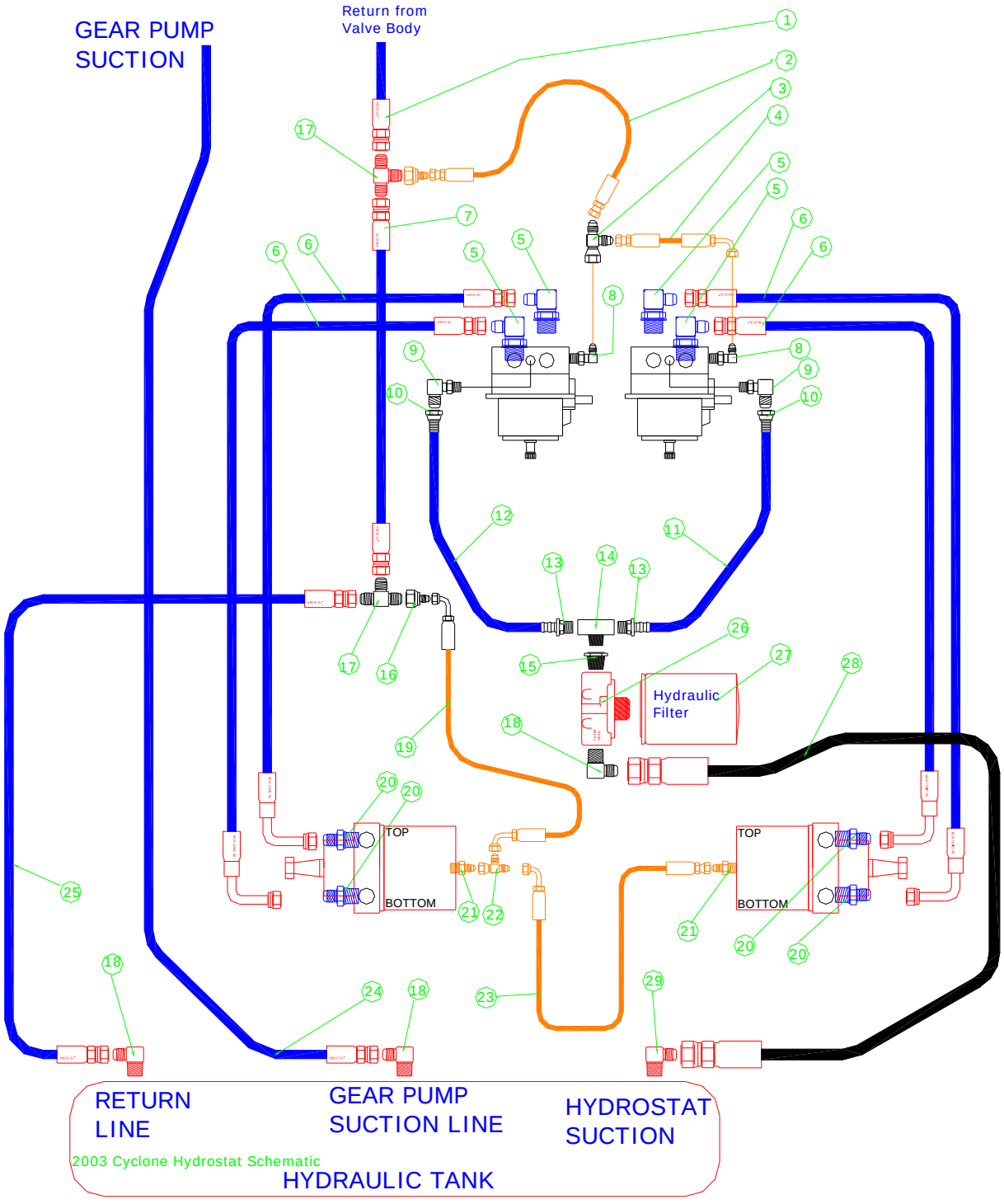
CYCLONE HYDRAULIC DRIVE COMPONENTS



KEY	DESCRIPTION	QTY	PART NUMBER
1	Hydrostat Assembly	2	CYH-001
2	Coupler Assembly	2	CYH-002
3	Gear Pump	1	CYH-036
4	Wheel Motor	2	CYH-004
5	White Tire	2	CYF-005
6	Black Tire	2	CYF-006
7	Gear Pump Driven Pulley (on motor)	1	CYH-007
8	Gear Pump Driver Pulley (on pump)	1	CYH-008
9	Gear Pump Drive Belt	1	CYH-009
10	Gear Pump Mount Plate	1	CYH-010
11	Wheel Motor Nut	2	CYH-011
12	Wheel Hub	2	CYH-012
13	Wheel Motor Bolt ½-13	8	CYH-013
14	Wheel Motor Retainer Nut ½-13	8	CYH-014
15	Lug Bolts	10	CYH-015

Section X:

CYCLONE HYDROSTAT SYSTEM

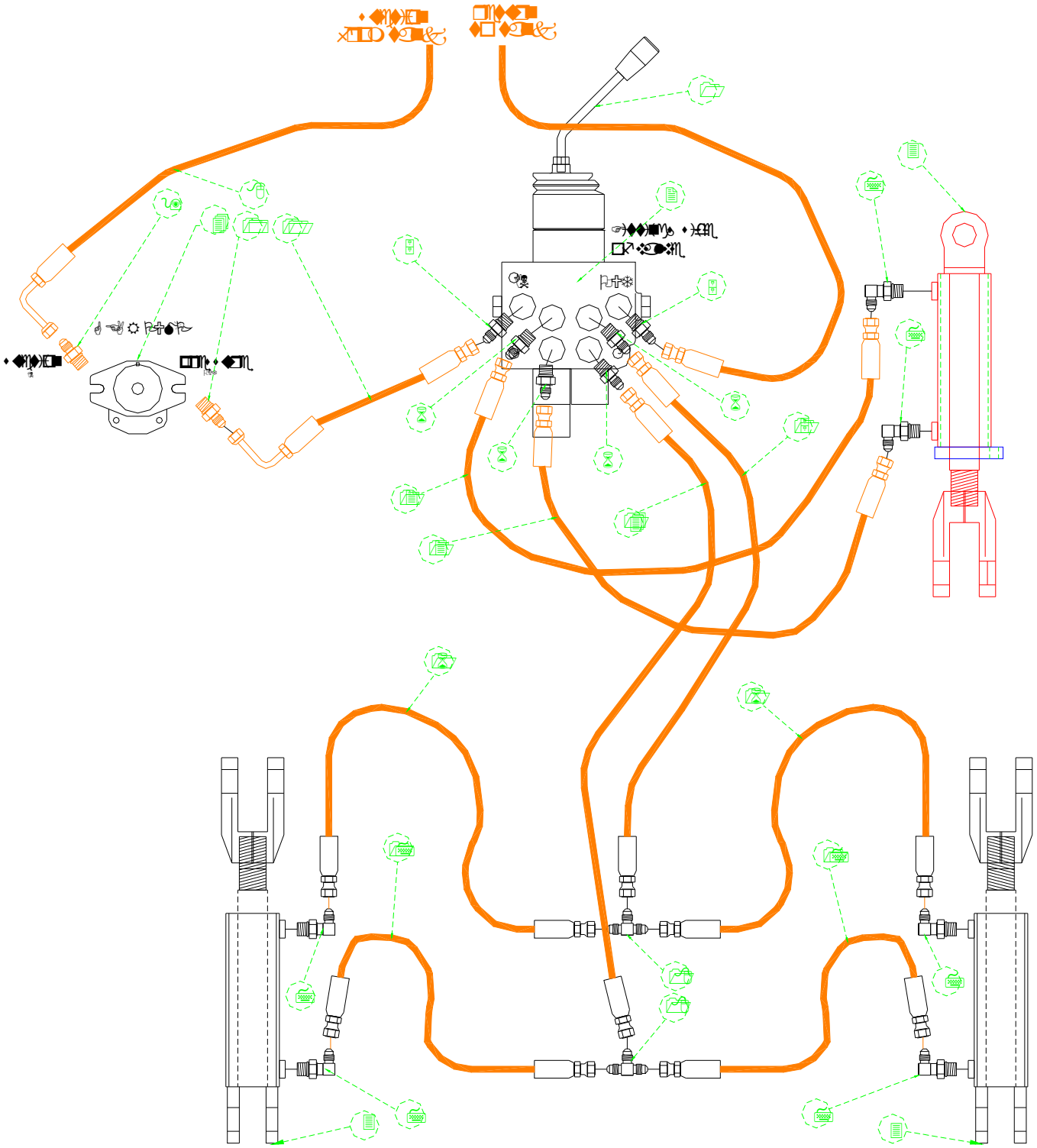


CYCLONE HYDROSTAT COMPONENTS

KEY	DESCRIPTION	QTY	PART NUMBER
1	#8 HOSE TEE TO VALVE RETURN	1	CYH-016
2	#4 HOSE TEE TO TEE	1	CYH-017
3	#6 FJX Drop TEE	1	CYH-018
4	#4 HOSE Right pump to Tee	1	CYH-019
5	MBX-MJ-08-08 90*	4	CYH-020
6	#8 Wheel Motor Hose	4	CYH-021
7	#8 Return Hose	1	CYH-022
8	MB-MJ-06-06 90*	2	CYH-023
9	MB-MJ-06-08 90*	2	CYH-024
10	RFJX #8	2	CYH-025
11	#8 Push Lock Hose	1	CYH-026
12	#8 Push Lock Hose	1	CYH-027
13	MP-Barb-08-08	2	CYH-028
14	#8 Brass Tee	1	CYH-029
15	MP-FP-12-08	1	CYH-030
16	MJ-FJ-04-08	2	CYH-031
17	#8 MJTee	2	CYH-032
18	MP-MJ-12-10 90*	3	CYH-033
19	#4 Return Hose	1	CYH-034
20	MB-MJ-10-08	4	CYH-035
21	MB-MJ-04-04	2	CYH-036
22	#4 FJX Run Tee	1	CYH-037
23	#4 Return Hose	1	CYH-038
24	#8 Suction Hose	1	CYH-039
25	#8 Return Hose	1	CYH-040
26	Filter Head	1	CYH-041
27	Hydraulic Filter	1	CYH-042
28	#10 Suction Hose	1	CYH-043
29	MP-MJ-12-10 90*	1	CYH-044

Section XI:

CYCLONE HYDRAULIC VALVE SYSTEM

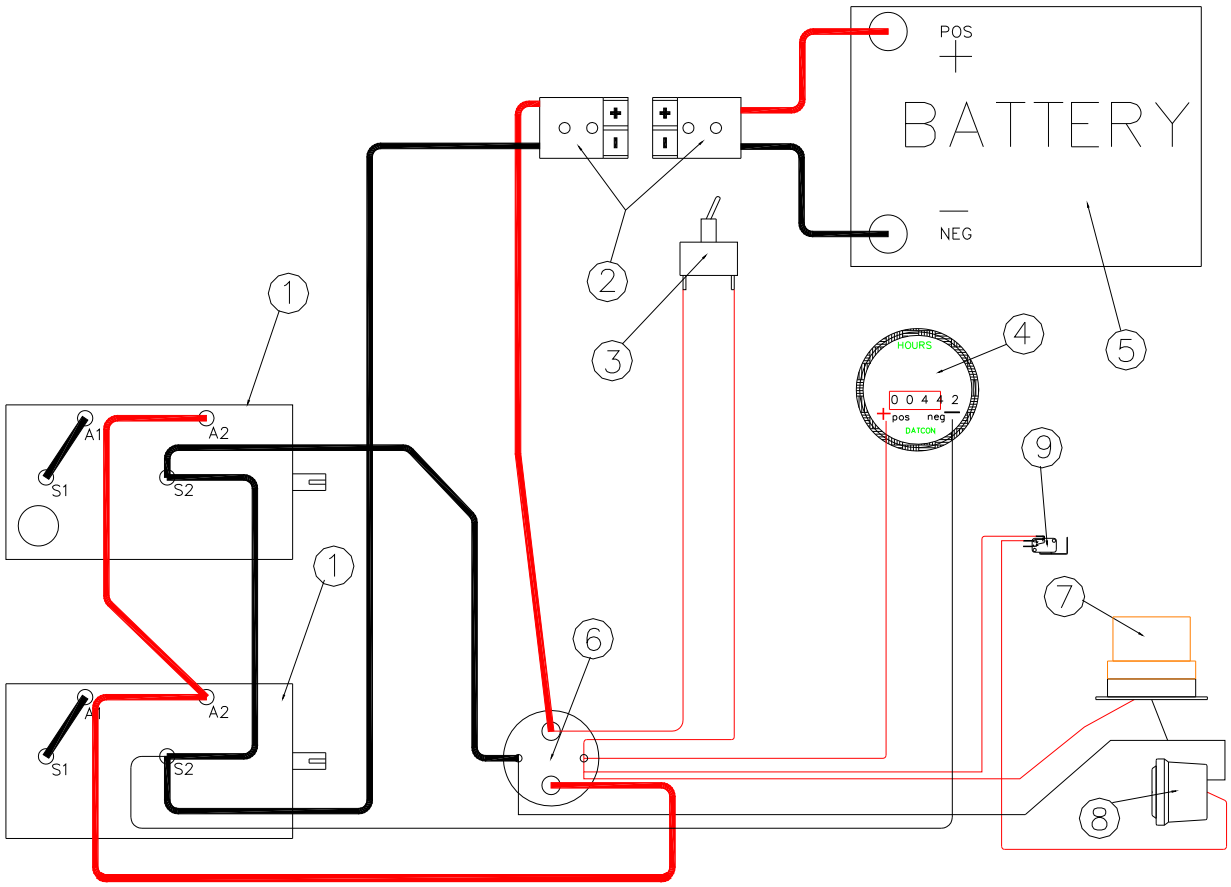


CYCLONE HYDRAULIC VALVE SYSTEM

KEY	DESCRIPTION	QTY	PART NUMBER
1	Valve Handle	1	CYH-045
2	Valve Assembly	1	CYH-046
3	2” x 4” Cylinder	3	CYH-047
4	Gear Pump	1	CYH-048
5	MB-MJ-08-08	2	CYH-049
6	MB-MJ-08-04	4	CYH-050
7	MP-MJ-06-04	6	CYH-051
8	#8 Suction Hose	1	CYH-052
9	MB-MJ-08-08 90*	1	CYH-053
10	MB-MJ-06-08 90*	1	CYH-054
11	#8 Pressure Hose	1	CYH-055
12	#4 Upper Lift Cyl Hose	1	CYH-056
13	#4 Lower Lift Cyl Hose	1	CYH-057
14	#4 Tilt Cyl Feeder (rear)	1	CYH-058
15	#4 Tilt Cyl Feeder (front)	1	CYH-059
16	#4 Tilt Retract Hose	2	CYH-060
17	#4 Tilt Extend Hose	2	CYH-061
18	#4 JIC Tee	2	CYH-062

Section XII:

CYCLONE ELECTRICAL SYSTEM



KEY	DESCRIPTION	QTY	PART NUMBER
1	Electric motor	2	CYE-001
2	Electrical connector	2	CYE-002
3	On / Off Switch	1	CYE-003
4	Hour Meter	1	CYE-004
5	Battery	1	CYE-007
6	Electric Solenoid	1	CYE-006
7	Safety Strobe	1	CYS-003
8	Back/Up Alarm	1	CYS-002
9	Back/Up Alarm Switch	1	CYS-004
10	220 Volt Single Phase charger	1	CYE-008
11	110 Volt charger	1	CYE-005
12	Complete Back/Up Alarm Kit	1	CYS-001
13	Mount for Beacon and Alarm	1	CYS-006
14	Mount for Back/Up alarm Switch	1	CYS-007
15	Upper cable Mount for Retrofit	1	CYS-008